EXHIBIT F

PUERTO RICO TEACHERS RETIREMENT SYSTEM

June 30, 2017 Actuarial Valuation Report

PRTRS liquid assets as of June 30, 2017 are less than half a year of benefit payments.

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March 24, 2020

Mr. Luis M. Collazo Rodríguez, Esq.
Administrator
Puerto Rico Teachers Retirement System
Capital Center Building, North Tower
235 Arterial Hostos Avenue
8th Floor
San Juan, PR 00918

Dear Mr. Collazo:

This report presents the results of the actuarial valuation of the Puerto Rico Teachers Retirement System (PRTRS) as of June 30, 2017. Section I contains highlights of the valuation including a general discussion. The subsequent Sections contain schedules summarizing the underlying calculations, asset information, participant data, plan benefits and actuarial assumptions and methods. As directed by PRTRS based on conversations with GASB, Act 106-2017 (enacted on August 23, 2017) is to be reflected as of June 30, 2017 as a non-recognized subsequent event that requires disclosure (Type II – Subsequent Event). As a result, this valuation does not reflect the impact of Act 106-2017.

Purpose

The main purposes of this report are:

- to present information pertaining to the operation of the plan for inclusion in financial statements based on relevant Statements of the Government Accounting Standards Board (GASB);
- to review the experience under the plan since the previous valuation; and
- to assess the relative funded position of the plan.

This report was prepared solely to provide assistance to PRTRS. Milliman and PRTRS do not intend to benefit and assume no duty or liability to other parties who receive this report. Milliman and PRTRS recommend that any third party recipient of this report be aided by its own actuary or other qualified professional when reviewing the Milliman report. Any distribution of this report should be made in its entirety.

The use of this report for purposes other than those stated above may not be appropriate and should be reviewed with Milliman.

The report was prepared solely to provide assistance to the Commonwealth of Puerto Rico Teachers Retirement System for a specific and limited purpose. It is a complex, technical analysis that assumes a high level of knowledge concerning PRTRS's operations, and uses PRTRS's data, which Milliman has not audited. Milliman and PRTRS do not intend to benefit and assume no duty or liability to other parties who receive this report. Milliman and PRTRS recommend that any third party recipient of this report be aided by its own actuary or other qualified professional when reviewing the Milliman report. Any distribution of this report should be made in its entirety.

Data Reliance

In performing this analysis, we relied on the census data, asset information, and other information (both written and oral) provided by the System. We have not audited or verified the census data, asset information, or other information. To the extent that any of these are inaccurate or incomplete, the results of this valuation may likewise be inaccurate or incomplete.

We did not audit the data used in our analysis, but did review it for reasonableness and consistency and have not found material defects in the data. It is possible that material defects in the data would be uncovered by a detailed, systematic review and comparison of the data to search for data values that are questionable or for relationships that are materially inconsistent. Such a review was beyond the scope of our assignment.

The asset information used for the valuation was taken from unaudited financial statements as of June 30, 2017 provided by PRTRS on June 17, 2019 and is subject to change upon audit.

Future Measurements

This valuation report is only an estimate of the System's financial condition as of a single date. It can neither predict the System's future condition nor guarantee future financial soundness. Actuarial valuations do not affect the ultimate cost of System benefits. While the valuation is based on an array of individually reasonable assumptions, other assumption sets may also be reasonable and valuation results based on those

assumptions would be different. No one set of assumptions is uniquely correct. Determining results using alternative assumptions is outside the scope of our engagement.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to factors such as the following:

- Plan experience differing from the actuarial assumptions;
- Future changes in the actuarial assumptions;
- Increases or decreases expected as part of the natural operation of the methodology used for these measurements; and,
- Changes in the plan provisions or accounting standards.

Due to the limited scope of our assignment, we did not perform an analysis of the potential range of such measurements.

Certification

We hereby certify that, to the best of our knowledge, this report is complete and accurate and all costs and liabilities were determined in conformance with generally accepted actuarial principles and practices which are consistent with the Actuarial Standards of Practice promulgated by the Actuarial Standards Board and the applicable Guides to Professional Conduct, amplifying Opinions, and supporting recommendations of the American Academy of Actuaries and are based on actuarial assumptions and methods adopted by the System. All of the actuarial assumptions were developed by Milliman in consultation with PRTRS. We believe that the actuarial assumptions and methods used in this actuarial valuation are reasonable for the main purposes of this report as stated herein.

Actuarial computations presented in this report are for purposes of fulfilling financial accounting requirements under the GASB Statements 45 and 67. The calculations in the enclosed report have been made on a basis consistent with our understanding of the plan provisions described in Section VI of this report, and of the applicable GASB Statements. Determinations for purposes other than meeting these requirements may be significantly different from the results contained in this report. Accordingly, additional determinations may be needed for other purposes.

This valuation reflects the law in effect as of June 30, 2017, as required by GASB accounting. As discussed in the introductory paragraph above, the impact of Act 106-2017, effective August 23, 2017, is not reflected in this valuation. The impact of any prospective legislative changes impacting the System are not yet fully known.

Qualifications

The consultants who worked on this assignment are pension actuaries. Milliman's advice is not intended to be a substitute for qualified legal or accounting counsel.

We are members of the Society of Actuaries and meet the qualification standards of the American Academy of Actuaries to render this actuarial opinion.

Respectfully submitted,

By: Glenn D. Bowen, F.S.A.
Member American Academy of Actuaries

Katherine A. Warren, F.S.A.
Member American Academy of Actuaries

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PUERTO RICO TEACHERS RETIREMENT SYSTEM

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PUERTO RICO TEACHERS RETIREMENT SYSTEM

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SECTION I – SUMMARY

A. Summary of Principal Results of June 30, 2017 Actuarial Valuation

GASB 67 Accounting ($ amounts in thousands)

	June 30, 2016 Valuation	June 30, 2017 Valuation
Total Pension Liability [1]	$18,165,572	$16,417,644
Net Fiduciary Position	895,455	516,966
Net Pension Liability	17,270,117	15,900,678

GASB 45 Accounting ($ amounts in thousands)

	June 30, 2016 Valuation	June 30, 2017 Valuation
Actuarial Accrued Liability [1]	$523,300	$501,655
Actuarial Value of Assets	0	0
Unfunded Actuarial Accrued Liability	523,300	501,655
Employer Normal Cost	0	0
as a percent of payroll	0.00%	0.00%
Annual Required Contribution		
for upcoming fiscal year	37,490	37,259
as a percent of payroll	3.40%	3.80%

[1] A discussion of the benefits included in the Total Pension Liability and Actuarial Accrued Liability begins on page 3 of this section.

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PUERTO RICO TEACHERS RETIREMENT SYSTEM

SECTION I – SUMMARY

	July 1, 2015 Census Data Collection	July 1, 2016 Census Data Collection
Participant Data		
Active Members		
Number	37,684	35,474
Average Salary [1]	$29,775	$29,390
Total Annual Salary [1]	$1,101,895,593	$1,033,224,067
Retirees		
Number	36,124	37,470
Average Monthly Basic System Benefit	$1,496	$1,524
Average Monthly System Administered Benefit	$47	$44
Disabled Members		
Number	2,364	2,414
Average Monthly Basic System Benefit	$559	$579
Average Monthly System Administered Benefit	$47	$45
Beneficiaries		
Number	3,263	3,421
Average Monthly Basic System Benefit	$431	$454
Average Monthly System Administered Benefit	$16	$13
Terminated Vested Members		
Number	750	1,100
Average Monthly Basic System Benefit	$762	$736

Basic System Benefit and System Administered Benefit amounts shown above are for pension benefits, including minimum benefits and COLAs. Special Law "bonus" benefits are not reflected.

[1] Active members on leave of absence are excluded.

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SECTION I – SUMMARY

B. General Discussion

Basic System Benefits

As summarized in Section VI, the Puerto Rico Teachers Retirement System (PRTRS) provides benefits to members who were hired before August 1, 2014, or their beneficiaries, upon:

- Retirement
- Disability
- Vested withdrawal
- Death
- Nonvested withdrawal (return of contributions)

Annuity benefits are subject to a $300 monthly minimum. The statutory funding requirement for these benefits for the 2017-2018 fiscal year includes member contributions of 9% of payroll.

These benefits will be referred to as the "Basic System Benefits" throughout this report.

System Administered Benefits

Also summarized in Section VI are benefits granted under a series of special laws that are administered by PRTRS, including:

- Additional minimum pension benefits, including the increase in the monthly minimum benefit from $300 to $400
- Additional minimum death benefit (if retired prior to August 1, 2014)
- Ad-hoc cost-of-living adjustments (COLAs)
- Medical insurance plan contribution (if retired prior to August 1, 2014)
- Medication bonus (if retired prior to August 1, 2014)
- Christmas bonus (if retired prior to August 1, 2014)

These benefits will be referred to as "System Administered Benefits" throughout this report.

System Experience since Prior Valuation

The approximate actual rate of return since the prior valuation was 5.59% for 2016-2017. The investment return assumption for the 2016-2017 fiscal year was 5.85%. The asset

loss due to investment performance that was less than expected served to increase the System's net pension liability.

Our analysis of System experience from June 30, 2016 to June 30, 2017 resulted in a liability loss of $0.13 billion (e.g. – the original June 30, 2016 Total Pension Liability of $18.17 billion was expected to increase to $18.26 billion as of June 30, 2017, and instead increased to $18.39 billion prior to the changes in assumptions).

Major sources of gains and losses from the June 30, 2016 valuation to the June 30, 2017 valuation are as follows:

1. $15 million loss on new entrants and rehired active members who were not included in the June 30, 2016 valuation.
2. $130 million loss on roughly 2,000 active members who retired since the prior valuation.
3. $25 million loss on roughly 200 "pop-up" retirees and terminated vested members who were not included in the prior year census data.
4. $30 million gain from active members terminating employment.

Further discussion is warranted on Item 2.

For Item 2, the act of retiring from active status generates a liability loss for an individual member. Possible explanations for additional liability losses attributable to individual members include purchases of service (which are offset to some extent on the asset side by the member's purchase price) and any data clean-up that may have occurred during the benefit calculation process when the member retired.

Changes in Assumptions since Prior Valuation

Based on GASB 67 parameters and the depletion of System assets, the discount rate is based on a bond market index. PRTRS has selected the Bond Buyer General Obligation 20-Bond Municipal Bond Index for this purpose. The index rate increased from 2.85% as of June 30, 2016 to 3.58% as of June 30, 2017. The investment return assumption is no longer applicable. The investment return assumption was 5.85% as of June 30, 2016.

This valuation reflects a decrease from 3.00% to 2.90% per year in the investment return assumption for GASB 45 purposes. The 2.90% assumption reflects Milliman's capital market assumptions as of June 30, 2017 and assumes that the Commonwealth's General

Fund (the assets used to pay the GASB 45 benefits) is invested approximately in 75% cash and 25% short-term bonds.

The projected mortality improvement scale was updated from Scale MP-2016 to Scale MP-2017 to reflect the projected mortality improvement scale issued in the valuation year.

In addition, to reflect actual retirement activity among active members that was higher than anticipated during 2017-2018, the retirement rates for active members were increased by 85% for 2017-2018.

The assumed investment return on the Defined Contribution Account was decreased from 4.68% to 4.32% based on Milliman's capital market assumptions as of June 30, 2017 and the hybrid plan asset allocation adopted by the Board in June 2017.

Changes in Plan Provisions since Prior Valuation

This valuation does not reflect any changes in plan provisions since the prior valuation.

Future Changes in Plan Provisions

As directed by PRTRS based on conversations with GASB, Act 106-2017 (enacted on August 23, 2017) is to be reflected as of June 30, 2017 as a non-recognized subsequent event that requires disclosure (Type II – Subsequent Event).

Act 106-2017

Act 106-2017 was enacted on August 23, 2017 and impacts the benefits provided to PRTRS members as follows:

- New employees hired July 1, 2017 or later will be participants in a separate defined contribution plan outside of PRTRS and will not become PRTRS members.
- Effective July 1, 2017, current PRTRS members who were hired August 1, 2014 or later will have their Defined Contribution Account assets transferred to a separate defined contribution plan outside of PRTRS and will no longer be PRTRS members. The amount transferred was $11.5 million.

In addition to the benefit changes, Act 106-2017 provides that PRTRS will be funded on a pay-as-you-go basis. The following contributions are eliminated by Act 106-2017:

SECTION I – SUMMARY

- Act 114-2011 employer contributions – was 14.75% of payroll in 2016-2017 and was scheduled to increase by 1.25% of payroll per year to an ultimate rate of 20.525% of payroll in 2021-2022 and later
- Act 160-2013 Annual Additional Contribution – was scheduled to become effective for the 2018-2019 fiscal year, payable until 2041-2042 with annual recalculations
- Act 160-2013 Teacher's Justice Uniform Contribution - $30 million for the 2016-2017 and 2017-2018 fiscal years and $60 million for each fiscal year from 2018-2019 to 2041-2042
- Act 160-2013 Supplemental Contributions – $1,675 each fiscal year for each pensioner (including beneficiaries receiving survivor benefits)

Changes in Methods since the Prior Valuation

There have been no change in methods since the prior valuation.

Overview of Recent Significant Changes in Plan Provisions

Act 3-2017

Act 66-2014 originally implemented a salary freeze for FY 2014-15 through FY 2016-17. The recent extension in Act 3-2017 freezes salaries for four additional years, through FY 2020-21.

Fiscal Plan

The *Fiscal Plan for Puerto Rico* (last revised October 23, 2018) was approved by the Puerto Rico Fiscal Board (a body created by the enactment of the Puerto Rico Oversight, Management, and Economic Stability Act ("PROMESA")). Section 16.2.1 anticipates a benefit accrual freeze and subsequent transition to a defined contribution plan and Section 16.2.2 anticipates a 10% reduction in aggregate benefit payments, both with an implementation date of July 1, 2019. As legislation has not been passed yet, the potential freeze and reduction are not reflected in this June 30, 2017 valuation.

The Fiscal Plan does reflect that PRTRS will be funded on a pay-as-you-go basis once assets are exhausted.

PUERTO RICO TEACHERS RETIREMENT SYSTEM

SECTION I – SUMMARY

Commentary on Pay-as-you-go ("paygo") funding

Operating a retirement system on a paygo basis may be conceptually simple, but can be very difficult in practice when reserves are limited or non-existent. While the valuation of liabilities for financial reporting purposes is conducted on an annual basis in arrears, benefit payments vary continuously and respond instantaneously to emerging events. There are also administrative expenses incurred continuously.

Disbursements will experience natural variation due to emerging demographic experience and can also be greatly impacted by specific management decisions, such as an early retirement incentive program or other workforce reduction.

A major issue that needs to be addressed is determining what the process of budgeting for paygo funding will be. While an expected paygo amount can be set at the time of budgeting for an upcoming fiscal year, disbursements can vary from expectations during the fiscal year.

- If the budget is set based on expected disbursements, in the event of adverse experience during the fiscal year, will additional funds be available?
- Alternately, would the budget request include a margin to provide a buffer against adverse experience?
  - If so, consideration will need to be given to what level of margin should be included. Scenarios such as higher retirement activity and/or lower mortality rates could be modeled to provide a range of potential adverse outcomes.
  - Increased security comes at increased cost, and no specific margin guarantees protection against all circumstances.
- How would the impacts of specific management decisions be handled?
  - For instance, assume that the fiscal year paygo amount appears to be sufficient as of mid-year.
  - Then a reduction in workforce is announced, with an effective date of March 31.
  - In the final three months of the fiscal year, disbursements will be higher than expected as some members will take a refund of contributions upon termination, and other members who are retirement eligible will commence their annuity earlier than they had been expected to do so.

There are certainly many more operational details to be considered. We provide this limited commentary in order to point out that paygo operation is a complex issue that

requires careful thought and planning, constant monitoring, and the ability to respond to emerging events quickly.

GASB Pension Accounting Information

Pension accounting results in Section III of this report have been prepared under GASB 67 parameters to determine a Total Pension Liability at the end of the fiscal year. The Net Fiduciary Position is then subtracted to arrive at the Net Pension Liability at the end of the fiscal year. The Net Pension Liability reflects the full amount of the unfunded liability, and thus can be significantly volatile from year to year.

GASB OPEB Accounting Information

Accounting results for the Medical Insurance Plan Contribution in Section IV of this report are calculated under Governmental Accounting Standards Board Statement No. 45, "*Accounting and Financial Reporting by Employers for Postemployment Benefits Other Than Pensions*" (GASB 45). (Note that the Medication Bonus has been included in the GASB 67 results as a Pension Benefit because members can receive the bonus without submitting documentation to substantiate medication expenses.)

There are no member or employer contributions on behalf of the Medical Insurance Plan Contribution. This benefit is financed on a pay-as-you-go basis from the General Fund of the Commonwealth of Puerto Rico. Since this benefit is not funded in advance, the ARC for this benefit has been calculated based on an assumed investment return rate of 2.90% based on the asset allocation of the Commonwealth's general assets that are used to pay this benefit.

Note that GASB issued GASB 75 in June 2015 which makes changes to GASB 45 similar to how GASB 25/27 were updated by GASB 67/68. GASB 75 is effective beginning with the 2017-2018 fiscal year, unless earlier adoption occurs.

PUERTO RICO TEACHERS RETIREMENT SYSTEM

SECTION II - SYSTEM ASSETS

A. Statement of Fiduciary Net Position

	June 30, 2016	June 30, 2017
Assets		
Cash and cash equivalents	$11,354,000	$62,387,000
Receivables and prepaid expenses	14,548,000	3,242,000
Investments:		
Bonds	0	0
Stocks	22,056,000	0
Non-exchange traded mutual funds	486,571,000	191,886,000
Private equity investments	5,574,000	3,522,000
Total loans to plan members	366,590,000	315,732,000
Other assets	393,000	418,000
Total investments	881,184,000	511,558,000
Invested securities lending cash collateral	760,000	0
Capital assets	15,942,000	15,021,000
Total assets	$923,788,000	$592,208,000
Liabilities		
Securities lending cash collateral	$760,000	$0
Other liabilities	27,573,000	75,242,000
Total liabilities	$28,333,000	$75,242,000
Net position restricted for pensions	$895,455,000	$516,966,000

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PUERTO RICO TEACHERS RETIREMENT SYSTEM

SECTION II - SYSTEM ASSETS

B. Statement of Changes in Fiduciary Net Position

	June 30, 2017
Additions	
a. Contributions	
Employer Contributions for Basic Benefits	$150,505,000
Employer Contributions for Special Benefits	119,797,000
Member Contributions	95,217,000
Interest on cultural loans	0
Transfers in	644,000
Total Contributions	$366,163,000
b. Investment Income	
Interest Income	$26,828,000
Dividend Income	283,000
Net Appreciation of Investments	10,102,000
Other Income	1,925,000
Investment Related Expenses	(724,000)
Net Investment Income	$38,414,000
Total Additions	$404,577,000
Deductions	
Refund of Contributions	$13,528,000
Annuities and Death Benefits	720,856,000
Special Benefits	33,895,000
Interest on cultural loans	0
Administrative Expenses	14,787,000
Total deductions	$783,066,000
Net Increase (Decrease)	($378,489,000)
Net position restricted for pensions	
Beginning of year (June 30, 2016)	895,455,000
End of year (June 30, 2017)	$516,966,000

PUERTO RICO TEACHERS RETIREMENT SYSTEM

SECTION II - SYSTEM ASSETS

C. Estimated Annual Rate of Return for year ending June 30, 2017

	Market Value
1. Value of Assets as of June 30, 2016	$895,455,000
2. Total Contributions	366,163,000
3. Total Deductions	783,066,000
4. Value of Assets as of June 30, 2017	516,966,000
5. Non-Investment Increment: (2) - (3)	(416,903,000)
6. Investment Increment: (4) - (1) - (5)	38,414,000
7. Time Weighted Value: (1) +.5 * (5)	687,003,500
8. Estimated Annual Rate of Return: (6) / (7)	5.59%

D. Estimated Historical Rates of Return

Plan Year Ending	Market Value
June 30, 2017	5.59%
June 30, 2016	3.98%
June 30, 2015	4.13%
June 30, 2014	11.20%
June 30, 2013	8.26%
5-year Compounded Annual Return	6.60%

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PUERTO RICO TEACHERS RETIREMENT SYSTEM

SECTION III – GASB 67 ACCOUNTING INFORMATION

A. Projection to Determine GASB 67 Date of Depletion (if any)

GASB 67 requires that a projection be performed for the System to determine a date of depletion, if any, and the resulting effective discount rate. This complex projection is used to determine the point at which the System is expected to deplete assets per GASB 67. The analysis includes a projection of member and employer contributions, benefit payments, and administrative expenses attributable to current members. Amounts attributable to members hired in the future are excluded except to the extent that employer contributions exceed the cost of benefits for those future members. *Because the date of depletion projection does not incorporate all projected cash inflows to and outflows from the System, the results will differ from those in a comprehensive cash flow projection that models all inflows and outflows. In other words, the GASB 67 date of depletion is not the same as the date that the System would be expected to exhaust assets.*

Once a depletion date has been determined, it is used as an input in the determination of the accounting liability as follows:

- The present value of all future benefits for GASB 67 accounting purposes is determined as follows:
  - For projected benefit payments occurring prior to the date of depletion, the discount rate is based on the System's expected return on assets.
  - For projected benefit payments occurring after the date of depletion, the discount rate is based on a tax-free municipal bond index.
- Based on the resulting present value of all future benefits for GASB 67 accounting purposes, a single equivalent interest rate can be imputed that yields the same present value

Due to imminent asset exhaustion, the single equivalent discount rate as of June 30, 2016 for GASB 67 was 2.86%, which was one basis point higher than the Bond Buyer General Obligation 20-Bond Municipal Bond index rate of 2.85%. Due to the transition to pay-as-you-go funding under Act 106-2017, no date of depletion test is performed as of June 30, 2017. The discount rate as of June 30, 2017 is set equal to the Bond Buyer General Obligation 20-Bond Municipal Bond index rate of 3.58%.

SECTION III - GASB 67 ACCOUNTING INFORMATION

B. Net Pension Liability

Net Pension Liability	June 30, 2016	June 30, 2017
Total pension liability	$18,165,571,901	$16,417,643,875
Fiduciary net position	895,455,000	516,966,000
Net pension liability	17,270,116,901	15,900,677,875
Fiduciary net position as a % of total pension liability	4.93%	3.15%
Covered payroll	$1,101,895,593	$1,033,224,067
Net pension liability as a % of covered payroll	1567.31%	1538.94%

The total pension liability was determined by an actuarial valuation as of July 1, 2016, calculated based on the discount rate and actuarial assumptions as shown in Section VII and was then projected forward to June 30, 2017. There have not been significant changes between the valuation date of July 1, 2016 and the fiscal year end. Any significant changes during this period must be reflected as prescribed by GASB 67. Covered Payroll is as of July 1, 2016.

Discount Rate

The plan's fiduciary net position was not projected to be available to make all projected future benefit payments of current active and inactive members. Therefore, the discount rate for calculating the total pension liability is equal to the single equivalent rate that results in the same actuarial present value as the long-term expected rate of return applied to benefit payments, to the extent that the plan's fiduciary net position is projected to be sufficient to make projected benefit payments, and the municipal bond rate applied to benefit payments, to the extent that the plan's fiduciary net position is not projected to be sufficient.

	June 30, 2016	June 30, 2017
Discount rate	2.86%	3.58%
Long-term expected rate of return net of investment expense	5.85%	n/a
Municipal bond rate *	2.85%	3.58%

* Bond Buyer General Obligation 20-Bond Municipal Bond Index

PUERTO RICO TEACHERS RETIREMENT SYSTEM

SECTION III - GASB 67 ACCOUNTING INFORMATION

C. GASB 67 Benefit Obligations as of June 30, 2017

	Basic System Benefits	System Administered Benefits	Total
1. Projected Benefits Payable to Retirees and Beneficiaries			
Retirees	$9,886,430,179	$313,745,518	$10,200,175,697
Disabled Members	247,874,322	22,023,462	269,897,784
Beneficiaries	187,581,062	7,864,208	195,445,270
Total	10,321,885,563	343,633,188	10,665,518,751
2. Projected Benefits Payable to Vested Terminated Members	124,877,833	377,757	125,255,590
3. Actuarial Accrued Liability for Active Members	5,592,439,252	0	5,592,439,252
4. Refund of Contributions due to former members	34,430,282	0	34,430,282
5. Total Pension Liability as of June 30, 2017: (1) + (2) + (3) + (4)	$16,073,632,930	$344,010,945	$16,417,643,875

The above liabilities are for Basic System Benefits and selected System Administered Benefits. See Section I for more information.

SECTION III - GASB 67 ACCOUNTING INFORMATION

D. Changes in Net Pension Liability

		Increase (Decrease)	
Changes in Net Pension Liability	**Total Pension Liability (a)**	**Plan Fiduciary Net Position (b)**	**Net Pension Liability (a) - (b)**
Balances as of June 30, 2016	$18,165,571,901	$895,455,000	$17,270,116,901
Changes for the year:			
Service cost	335,237,334		335,237,334
Interest on total pension liability	518,214,203		518,214,203
Effect of plan changes	0		0
Effect of economic/demographic (gains) or losses	131,133,644		131,133,644
Effect of assumptions changes or inputs	(1,964,234,207)		(1,964,234,207)
Benefit payments	(768,279,000)	(768,279,000)	0
Administrative expenses		(14,787,000)	14,787,000
Member contributions		95,217,000	(95,217,000)
Net investment income		38,414,000	(38,414,000)
Transfer		644,000	(644,000)
Employer contributions		270,302,000	(270,302,000)
Balances as of June 30, 2017	$16,417,643,875	$516,966,000	$15,900,677,875

E. Sensitivity Analysis

The following presents the net pension liability of PRTRS, calculated using the discount rate of 3.58%, as well as what the System's net pension liability would be if it were calculated using a discount rate that is 1 percentage point lower (2.58%) or 1 percentage point higher (4.58%) than the current rate.

	1% Decrease 2.58%	**Current Discount Rate 3.58%**	**1% Increase 4.58%**
Total pension liability	$18,759,821,006	$16,417,643,875	$14,500,874,606
Fiduciary net position	516,966,000	516,966,000	516,966,000
Net pension liability	18,242,855,006	15,900,677,875	13,983,908,606

PUERTO RICO TEACHERS RETIREMENT SYSTEM

SECTION IV - GASB 45 ACCOUNTING INFORMATION

A. Benefit Obligations

1. Projected Benefits Payable to Retirees and Beneficiaries	
Retirees	$472,981,955
Disabled Members	28,672,561
Beneficiaries	0
Total	501,654,516
2. Projected Benefits Payable to Vested Terminated Members	0
2. Actuarial Accrued Liability for Active Members	0
3. Actuarial Accrued Liability as of June 30, 2017	501,654,516
4. Total Employer Normal Cost as of December 31, 2017	0

The above liabilities are for the Medical Insurance Plan Contribution portion of the System Administered Benefits. See Section I for more information.

SECTION IV - GASB 45 ACCOUNTING INFORMATION

B. Development of Unfunded Accrued Liability and Amortization Payment Payable as of December 31, 2017

1. Actuarial Accrued Liability as of June 30, 2017	$501,654,516
2. Actuarial Value of Assets as of June 30, 2017	0
3. Unfunded Actuarial Accrued Liability as of June 30, 2017: (1) - (2)	501,654,516
4. Amortization Period in years	17
5. Amortization Factor at beginning of year	13.6577
6. Amortization Amount Payable as of December 31, 2017: [(3) / (5)] * (1.0290 ^ 0.5)	$37,259,313

C. Development of Annual Required Contribution

1. Total Employer Normal Cost as of December 31, 2017	$0
2. Amortization Payment as of December 31, 2017	37,259,313
3. Annual Required Contribution*: (1) + (2)	37,259,313

* Assumes payments made throughout the year.

The above liabilities are for the Medical Insurance Plan Contribution portion of the System Administered Benefits. See Section I for more information.

SECTION IV - GASB 45 ACCOUNTING INFORMATION

D. Development of Net OPEB Obligation as of June 30, 2017

1. Net OPEB Obligation as of June 30, 2016	$58,055,803
2. Annual OPEB Cost for Fiscal Year 2016 - 2017	35,010,813
3. Fiscal Year 2016 - 2017 Employer Contribution	36,493,000
4. Net OPEB Obligation as of June 30, 2017: (1) + (2) - (3)	$56,573,616

E. Development of Fiscal Year 2017 - 2018 Annual OPEB Cost

1. Annual Required Contribution	$37,259,313
2. Interest on Net OPEB Obligation as of June 30, 2017	1,640,635
3. Adjustment to the Annual Required Contribution	4,262,376
4. Fiscal Year 2017 - 2018 Annual OPEB Cost: (1) + (2) - (3)	$34,637,572

The above liabilities are for the Medical Insurance Plan Contribution portion of the System Administered Benefits. See Section I for more information.

SECTION IV - GASB 45 ACCOUNTING INFORMATION

F. Schedule of Employer Contributions

Year Ended June 30	Actual Employer Contribution	Annual Required Contribution	Percent Contributed	Annual OPEB Cost	Percent Contributed
2018	$36,363,000	$37,259,313	97.59%*	$34,637,572	104.98%*
2017	36,493,000	37,490,306	97.34	35,010,813	104.23
2016	37,481,000	38,048,604	98.51	35,688,603	105.02
2015	37,776,000	36,292,129	104.09	33,946,314	111.28
2014	35,892,000	46,402,944	77.35	45,901,955	78.19
2013	34,239,000	45,668,532	74.97	45,333,986	75.53
2012	34,471,000	41,068,597	83.94	40,980,028	84.12

* Percentage contributed for the year ended June 30, 2018 assumes the actual employer contribution is the expected pay-as-you-go amounts for the Medical Insurance Plan Contribution.

The above liabilities are for the Medical Insurance Plan Contribution portion of the System Administered Benefits. See Section I for more information.

SECTION IV - GASB 45 ACCOUNTING INFORMATION

G. Schedule of Funding Progress

	(a)	(b)	(c)=(b)-(a)	(d)=(a)/(b)	(e)	(f)=(c)/(e)
Actuarial Valuation Date	Actuarial Value of Assets	Accrued Liability	Unfunded Liability	Funded Ratio	Annual Salary	Unfunded Liability as a % of Annual Salary
06/30/2017	$0	$501,654,516	$501,654,516	0.0%	1,033,224,067	48.6%
06/30/2016	0	523,299,932	523,299,932	0.0%	1,101,895,593	47.5%
06/30/2015	0	548,518,327	548,518,327	0.0%	1,127,499,643	48.6%
06/30/2014	0	543,205,105	543,205,105	0.0%	1,171,153,830	46.4%
06/30/2013	0	792,875,089	792,875,089	0.0%	1,248,674,490	63.5%
06/30/2012	0	797,332,237	797,332,237	0.0%	1,292,974,899	61.7%

The above liabilities are for the Medical Insurance Plan Contribution portion of the System Administered Benefits. See Section I for more information.

SECTION IV - GASB 45 ACCOUNTING INFORMATION

H. Additional Information

The following information was used to determine the Annual Required Contribution for the fiscal year ending June 30, 2018. The ARC is for the Medical Insurance Plan Contribution. See Section I for more information.

Valuation Date:	June 30, 2017
Actuarial Cost Method:	Entry Age Normal
Amortization method:	20 years closed (beginning July 1, 2014), level dollar
Remaining Amortization Period:	17 years
Asset valuation method:	Market Value of Assets
Assumptions:	
Investment rate of return	2.90%
Projected Salary Increases	not applicable
Payroll growth	not applicable
Inflation	not applicable
Cost of Living Adjustments	not applicable

PUERTO RICO TEACHERS RETIREMENT SYSTEM

SECTION V – CENSUS DATA

A. Reconciliation with Prior Valuation

	Active [1]	Terminated Vested	Retirees, Disabled Members, and Beneficiaries	Total
Members as of July 1, 2015	37,684	750	41,751	80,185
Changes				
Terminated Vested	(329)	329	0	0
Retired & Disabled	(2,137)	(12)	2,149	0
Death	(35)	(7)	(1,140)	(1,182)
Disappeared	(1,304)	0	0	(1,304)
Return/Transfer of Contributions	(199)	0	0	(199)
Return to Active	121	(62)	(3)	56
New	1,673	102	548	2,323
Members as of July 1, 2016	35,474 [2]	1,100	43,305	79,879

[1] The July 1, 2016 census data reflects retirements during July 2016.

[2] Includes 318 members on leave of absence without pay who are assumed not to earn additional benefits.

The liability for the Return of Contributions due to former Members was provided by the System and equals the accumulated contributions with interest as of July 1, 2017 for former participants who terminated employment by July 1, 2017 and have not received a return of contributions as of July 1, 2017.

SECTION V – CENSUS DATA

B. Summary of Active Members as of July 1, 2016

Number of Defined Benefit Active Members

Age Group	Years of Service 0-4	5-9	10-14	15-19	20-24	25-29	30+	Total
<25	9	-	-	-	-	-	-	9
25-29	874	161	-	-	-	-	-	1,035
30-34	1,275	1,810	242	-	-	-	-	3,327
35-39	681	1,279	2,246	402	-	-	-	4,608
40-44	407	702	1,586	2,206	195	-	-	5,096
45-49	295	541	1,032	1,633	2,039	358	1	5,899
50-54	211	381	773	1,199	1,733	3,013	78	7,388
55-59	109	199	486	689	878	1,358	117	3,836
60-64	38	88	167	257	270	424	78	1,322
65-69	15	25	35	61	73	79	30	318
70+	5	10	13	21	14	27	24	114
Total	3,919	5,196	6,580	6,468	5,202	5,259	328	32,952

Average Annual Compensation of Defined Benefit Active Members
(excluding 318 leave of absence members)

Age Group	Years of Service 0-4	5-9	10-14	15-19	20-24	25-29	30+	Average
<25	20,347	-	-	-	-	-	-	20,347
25-29	21,270	22,079	-	-	-	-	-	21,396
30-34	21,472	22,563	26,376	-	-	-	-	22,425
35-39	21,619	22,804	28,687	33,226	-	-	-	26,430
40-44	21,976	23,708	29,341	33,673	34,598	-	-	30,086
45-49	22,492	23,779	29,160	33,532	34,764	35,941	41,028	31,918
50-54	23,413	23,766	29,084	33,063	34,349	35,360	37,963	33,211
55-59	23,571	23,483	28,672	32,673	34,064	35,214	37,274	32,827
60-64	24,051	24,327	28,442	32,506	34,167	35,271	37,858	32,801
65-69	24,604	27,134	27,784	32,425	34,549	35,624	38,560	32,971
70+	21,595	25,389	27,834	32,109	34,594	35,870	39,891	33,596
Average	21,770	23,065	28,865	33,328	34,467	35,361	37,889	30,024

PUERTO RICO TEACHERS RETIREMENT SYSTEM

SECTION V – CENSUS DATA

B. Summary of Active Members as of July 1, 2016

Number of Hybrid Active Members

Age Group	Years of Service							
	0-4	5-9	10-14	15-19	20-24	25-29	30+	Total
<25	207	-	-	-	-	-	-	207
25-29	897	-	-	-	-	-	-	897
30-34	582	-	-	-	-	-	-	582
35-39	333	-	-	-	-	-	-	333
40-44	197	-	-	-	-	-	-	197
45-49	138	-	-	-	-	-	-	138
50-54	93	-	-	-	-	-	-	93
55-59	49	-	-	-	-	-	-	49
60-64	22	-	-	-	-	-	-	22
65-69	4	-	-	-	-	-	-	4
70+	-	-	-	-	-	-	-	-
Total	2,522	-	-	-	-	-	-	2,522

Average Annual Compensation of Hybrid Active Members
(excluding 0 leave of absence members)

Age Group	Years of Service							
	0-4	5-9	10-14	15-19	20-24	25-29	30+	Average
<25	20,252	-	-	-	-	-	-	20,252
25-29	21,010	-	-	-	-	-	-	21,010
30-34	21,144	-	-	-	-	-	-	21,144
35-39	21,135	-	-	-	-	-	-	21,135
40-44	21,733	-	-	-	-	-	-	21,733
45-49	21,777	-	-	-	-	-	-	21,777
50-54	22,658	-	-	-	-	-	-	22,658
55-59	22,028	-	-	-	-	-	-	22,028
60-64	21,435	-	-	-	-	-	-	21,435
65-69	21,849	-	-	-	-	-	-	21,849
70+	-	-	-	-	-	-	-	-
Average	21,179	-	-	-	-	-	-	21,179

SECTION V – CENSUS DATA

B. Summary of Active Members as of July 1, 2016

Number of All Active Members

Age Group	Years of Service 0-4	5-9	10-14	15-19	20-24	25-29	30+	Total
<25	216	-	-	-	-	-	-	216
25-29	1,771	161	-	-	-	-	-	1,932
30-34	1,857	1,810	242	-	-	-	-	3,909
35-39	1,014	1,279	2,246	402	-	-	-	4,941
40-44	604	702	1,586	2,206	195	-	-	5,293
45-49	433	541	1,032	1,633	2,039	358	1	6,037
50-54	304	381	773	1,199	1,733	3,013	78	7,481
55-59	158	199	486	689	878	1,358	117	3,885
60-64	60	88	167	257	270	424	78	1,344
65-69	19	25	35	61	73	79	30	322
70+	5	10	13	21	14	27	24	114
Total	6,441	5,196	6,580	6,468	5,202	5,259	328	35,474

Average Annual Compensation of All Active Members
(excluding 318 leave of absence members)

Age Group	Years of Service 0-4	5-9	10-14	15-19	20-24	25-29	30+	Average
<25	20,256	-	-	-	-	-	-	20,256
25-29	21,138	22,079	-	-	-	-	-	21,217
30-34	21,368	22,563	26,376	-	-	-	-	22,233
35-39	21,457	22,804	28,687	33,226	-	-	-	26,068
40-44	21,895	23,708	29,341	33,673	34,598	-	-	29,772
45-49	22,258	23,779	29,160	33,532	34,764	35,941	41,028	31,685
50-54	23,177	23,766	29,084	33,063	34,349	35,360	37,963	33,079
55-59	23,071	23,483	28,672	32,673	34,064	35,214	37,274	32,690
60-64	23,005	24,327	28,442	32,506	34,167	35,271	37,858	32,612
65-69	24,024	27,134	27,784	32,425	34,549	35,624	38,560	32,832
70+	21,595	25,389	27,834	32,109	34,594	35,870	39,891	33,596
Average	21,536	23,065	28,865	33,328	34,467	35,361	37,889	29,390

PUERTO RICO TEACHERS RETIREMENT SYSTEM

SECTION V – CENSUS DATA

C. Summary of Terminated Vested Members as of July 1, 2016

Terminated Vested

Age	Count	Average Annual Basic System Pension Benefit
<35	8	5,187
35-39	109	6,214
40-44	163	7,671
45-49	197	8,380
50-54	200	8,863
55-59	217	9,741
60-64	103	9,723
65+	103	11,690
All	1,100	8,829

The average annual pension amounts are as of July 1, 2016. The $400 minimum monthly benefit is not reflected.

SECTION V – CENSUS DATA

D. Summary of Participants in Pay Status as of July 1, 2016

All average annual pension amounts are as of July 1, 2016.

Retirees

Age	Count	Average Annual Basic System Pension Benefit	Average Annual Total Pension Benefit
<45	6	20,058	20,058
45-49	39	15,811	15,811
50-54	1,009	22,782	22,784
55-59	4,767	25,242	25,245
60-64	8,677	22,769	22,789
65-69	8,007	18,779	19,136
70-74	5,306	16,069	16,801
75-79	3,780	13,037	14,148
80-84	2,963	10,810	12,239
85-89	1,790	9,462	10,982
90-94	875	8,797	10,170
95-99	204	8,364	9,654
100+	47	8,208	9,295
All	37,470	18,289	18,812

In addition, 1,034 retirees are currently paying annual additional contributions of $3,319,570 (via a reduced monthly benefit which is not reflected above). The 56 Act 70-2010 retirees as of July 1, 2016 have initial monthly employer contributions totaling $17,708 and the amounts above do not reflect the deferral of the benefits for these retirees.

PUERTO RICO TEACHERS RETIREMENT SYSTEM

SECTION V – CENSUS DATA

D. Summary of Participants in Pay Status as of July 1, 2016

Disabled Members

Age	Count	Average Annual Basic System Pension Benefit	Average Annual Total Pension Benefit
<45	47	6,895	6,954
45-49	104	9,166	9,245
50-54	257	10,383	10,444
55-59	390	9,733	9,898
60-64	389	7,821	8,240
65-69	292	5,713	6,454
70-74	246	4,831	5,714
75-79	237	4,731	5,607
80-84	216	4,464	5,326
85-89	160	4,449	5,331
90-94	56	4,526	5,374
95-99	14	4,302	5,146
100+	6	5,557	6,318
All	2,414	6,953	7,486

Beneficiaries

Age	Count	Average Annual Basic System Pension Benefit	Average Annual Total Pension Benefit
<30	82	5,276	5,369
30-35	4	5,672	5,879
35-39	17	5,316	5,376
40-44	19	6,752	6,858
45-49	60	5,207	5,309
50-54	70	6,096	6,215
55-59	108	6,188	6,332
60-64	225	7,045	7,202
65-69	362	6,808	6,966
70-74	460	6,048	6,204
75-79	609	5,458	5,629
80-84	621	4,846	5,026
85-89	466	4,408	4,587
90+	318	4,140	4,314
All	3,421	5,442	5,606

PUERTO RICO TEACHERS RETIREMENT SYSTEM

SECTION VI – SUMMARY OF PRINCIPAL PLAN PROVISIONS AS OF JUNE 30, 2017

PRTRS was established in 1951. Act 106-2017 (enacted August 23, 2017) superseded Act 160-2013 (enacted December 24, 2013), which superseded Act 91-2004 (enacted March 29, 2004), which superseded Act 218-1951 (enacted May 6, 1951).

Two main sets of benefit provisions apply to various members of PRTRS depending on the member's date of hire as a result of Act 160-2013, as modified by the April 11, 2014 decision of the Puerto Rico Supreme Court.

- The first set of provisions applies to members hired on or before July 31, 2014. Distinctions for members who retired August 1, 2014 or later are noted throughout this first set of provisions as applicable. Per System policy, administrative staff who resigned July 31, 2014 and commenced retirement benefits August 1, 2014 and members who requested disability retirement by July 31, 2014 who subsequently commenced disability retirement benefits are entitled to the medical insurance plan contribution, the Christmas bonus, and the medication bonus as if they had actually retired prior to August 1, 2014.
- The second set of provisions applies to members hired August 1, 2014 or later. Under Act 106-2017 and effective July 1, 2017, these members had their Defined Contribution Account assets moved to a separate defined contribution plan outside of PRTRS and are no longer members of PRTRS.

This summary of plan provisions, with separate descriptions for the two sets of benefits and the employer contributions, is intended only to describe the essential features of the plan for valuation purposes. All eligibility requirements and benefit amounts shall be determined in strict accordance with the plan document itself.

References to Act 160-2013 in this summary are all inclusive and refer to the applicable section, together with any modifications by the April 11, 2014 Supreme Court decision and the June 9, 2016 sentence from the Puerto Rico Court of Appeals.

Provisions applicable to members hired on or before July 31, 2014

1. Type of Plan

   A contributory, defined benefit pension plan.

2. Eligibility for Membership

   Members of the Teacher's Retirement System of Puerto Rico include teachers hired by the Department of Education on or before July 31, 2014, retired teachers, licensed teachers working in private schools or other educational organizations who elect to become members on or before July 31, 2014, employees of the System hired before March 29, 2004 who elected to become members, and employees of the System hired on or after March 29, 2004 and on or before July 31, 2014 (Act 160-2013, Article 3.1).

3. Definitions

   a. Fiscal Year: A Fiscal Year is a 12-month period beginning on July 1 and ending on June 30.

   b. Fund: System Contribution Fund (Act 160-2013, Article 4.1).

   c. General Fund: The General Expenses Budget of the Government of the Commonwealth of Puerto Rico.

   d. Creditable Service: The years and months of plan participation, during which contributions have been made, beginning on the date of the first original appointment for rendering services. For purposes of calculating Creditable Service, 15 calendar days of a school year month shall be equal to 1 calendar month worked during the school year for teachers; and 21 calendar days of a month shall be equal to 1 calendar month worked for other participants. (Act 160-2013, Article 3.8) Creditable Service also includes purchased service, if any (Act 160-2013, Articles 3.6 and 3.8).

   e. Compensation: The gross cash compensation, excluding bonuses and overtime, upon which contributions by a Member to the Fund are based (Act 160-2013, Article 1.1).

   f. Average Compensation: The average of the 36 highest months of compensation that the participant has received for Creditable Service (Act 160-2013, Article 1.1).

   g. Average Non-occupational Disability Compensation: The average of the 60 highest consecutive months of compensation that the participant has received. (Act 160-2013, Article 4.6).

h. Average Occupational Disability Compensation: The average of the 60 highest consecutive months of compensation that the participant has received. If less than 60 months of creditable service, the average of the monthly compensation that the participant has received. (Act 160-2013, Article 4.6).

i. Contributions: The amount deducted from the compensation of a Member or directly paid to the System (Act 160-2013, Article 1.1).

j. Accumulated Contributions: The sum of all amounts deducted from the compensation of a Member or directly paid to the System, without interest.

4. Retirement Benefits

a. Retirement because of age

Eligibility: Age 60 with 10 years of Creditable Service (Act 160-2013, Article 3.9).

Benefit: Members who retire because of age shall be entitled to a lifetime monthly income equal to 1.8% of Average Compensation multiplied by years of Creditable Service (Act 160-2013, Article 4.4). In no event will the benefit determined be less than the Minimum Benefit.

Additional Contributions required: None.

b. Retirement because of age and years of service

Eligibility: Age 47 with 25 years of Creditable Service (Act 160-2013, Article 3.9).

Benefit: Members who retire because of age and years of service shall be entitled to a lifetime monthly income based on age and years of Creditable Service as shown below (Act 160-2013, Article 4.4). In no event will the benefit determined below be less than the Minimum Benefit.

Attained Age	Years of Creditable Service	Lifetime Monthly Income
55	30	75% of Average Compensation

SECTION VI – SUMMARY OF PRINCIPAL PLAN PROVISIONS AS OF JUNE 30, 2017

Attained Age	Years of Creditable Service	Lifetime Monthly Income
50	30	75% of Average Compensation
Under 50	30	65% of Average Compensation
50	25 but less than 30	1.8% of Average Compensation multiplied by years of Creditable Service
47 but less than 50	25 but less than 30	95% of 1.8% of Average Compensation multiplied by years of Creditable Service

Additional Contributions required: If a member retires at age 55 or older with at least 30 years of Creditable Service, no additional contributions are required. Members who retired before December 24, 2013 who have not attained age 55 and 30 years of Creditable Service at retirement must contribute to the Fund 9% of the Average Compensation on a monthly basis for a minimum period of 5 years after retiring because of age and years of service. Current administrative practice requires contributions until attainment of both age 55 and the date when 30 years of Creditable Service would have been completed if employment had continued for members who retired before December 24, 2013. Members who retired on or after December 24, 2013 who have not attained age 55 and 30 years of Creditable Service at retirement must contribute to the Fund 9% of the Average Compensation on a monthly basis until attainment of age 55. Prior to July 1, 2017, the employer of each of these members shall continue making the corresponding employer contributions while the member is paying the 9% additional contribution until the age 55 requirement is met; effective July 1, 2017, this employer contribution was eliminated due to Act 106-2017. (Act 160-2013, Article 4.4)

5. Termination Benefits

   a. Lump Sum Withdrawal

      Eligibility: A Member is eligible upon termination of service.

      Benefit: The benefit equals a refund of Accumulated Contributions, plus compound interest accumulated at 2.0% per annum for a period no longer than 6 months following separation of service. (Act 160-2013, Article 3.4)

b. Deferred Retirement

Eligibility: A Member is eligible upon termination of service prior to age 60 and after 10 years of Creditable Service, provided the member has not taken a lump sum withdrawal (Act 160-2013, Article 4.4).

Benefit: The benefit, commencing at age 60, is equal to 1.8% of Average Compensation multiplied by years of Creditable Service at date of termination (Act 160-2013, Article 4.4). In no event will the benefit determined be less than the Minimum Benefit.

6. Death Benefits

a. Pre-retirement Death Benefit

Eligibility: Any current non-retired member is eligible.

Benefit: The benefit is as follows:

(i) While in active service, the benefit equals a refund of Accumulated Contributions, plus interest accumulated at 2.0% per annum until the date of death; plus, if death occurred on or before July 31, 2014, an amount equal to one year of Compensation in effect at the time of death (Act 160-2013, Article 3.18).

(ii) While not in active service, the benefit equals a refund of Accumulated Contributions, plus interest accumulated at 2.0% per annum up to separation of service (Act 160-2013, Article 3.17).

b. Post-retirement Death Benefit for members who retired on or before July 31, 2014

Eligibility: Any retiree or disabled member receiving a monthly benefit who retired on or before July 31, 2014.

Benefit: The benefit is as follows:

(i) Full pension for the month in which the pensioner died plus an additional fifteen-day pay period payable to the member's eligible beneficiaries (Act 160-

2013, Article 4.8). In no case shall the benefit be less than $1,000. The General Fund pays up to $500. The System pays for the rest. (Act 160-2013, Article 4.8 and Act 272-2004)

(ii) For those married at the time of death, the lifetime annual income to a widow or widower is equal to 50% of the Retirement Benefit at time of death, payable for life (Act 160-2013, Article 4.8).

(iii) For those with children at the time of death, the total lifetime annual income to all children is equal to 50% of the Retirement Benefit at time of death. The benefit is payable while the children are under age 6 or are currently enrolled in a regular public or private school or college program until the age of 22, and it is payable for life while they are disabled (Act 160-2013, Article 4.8).

(iv) The benefit, when there is no relation as stated above, is equal to the remaining balance of Accumulated Contributions with interest (interest is determined as of the date of retirement if retired directly from active service or as of separation of service otherwise) after the deduction of lifetime annual income paid and is payable to a beneficiary or to the Member's estate (Act 160-2013, Article 4.8).

c. Post-retirement Death Benefit for Members who retire August 1, 2014 or later

Eligibility: Any retiree or disabled member receiving a monthly benefit whose retirement occurred August 1, 2014 or later (Act 160-2013, Articles 4.8 and 5.11).

Benefit: If the member elected at the time of retirement to transfer a portion of the annuity to a beneficiary by selecting an actuarially equivalent optional form of payment, the applicable survivor benefit (Act 160-2013, Article 5.11).

For all members, the excess, if any, of the Accumulated Contributions with interest (interest is determined as of the date of retirement if retired directly from active service or as of separation of service otherwise) after the deduction of lifetime annual income paid and is payable to a beneficiary or to the member's estate (Act 160-2013, Article 5.11). Beneficiaries may elect to receive the remaining accumulated contributions as a lump sum payment or a monthly payment of the pension amount until the depletion of the contributed amount.

SECTION VI – SUMMARY OF PRINCIPAL PLAN PROVISIONS AS OF JUNE 30, 2017

7. Disability Benefits

   a. Non-occupational Disability

      Eligibility: All members are eligible for Non-occupational Disability upon 5 years of Creditable Service and the occurrence of disability (Act 160-2013, Article 4.5).

      Benefit: 1.8% of Average Non-occupational Disability Compensation multiplied by years of Creditable Service (Act 160-2013, Article 4.6). In no event will the benefit determined be less than the Minimum Benefit.

   b. Occupational Disability

      Eligibility: All members disabled while in the course and as a consequence of their work (Act 160-2013, Article 4.5).

      Benefit: 1.8% of Average Occupational Disability Compensation multiplied by years of Creditable Service (Act 160-2013, Article 4.6). In no event will the benefit determined be less than the Minimum Benefit.

8. Minimum Benefits

   a. Past Ad hoc Increases: The legislature, from time to time, increases pensions for certain retirees as described in Act 124-1973 and Act 47-1984. The benefits are paid 50% by the General Fund and 50% by the System.

   b. Current Minimum Benefit: The minimum monthly lifetime income for members who retire or become disabled is $400 per month effective July 1, 2007 ($300 per month up to June 30, 2007). The General Fund will pay for the $100 per month increase in the minimum benefit (Act 38-2007, Section 3).

9. Cost-of-Living Adjustments (COLA) to Pension Benefits: The legislature, from time to time, increases pensions by 3% for retired and disabled members. Beneficiaries are not entitled to COLAs granted after the retiree's death. The first increase was granted by Act 62-1992. Subsequent 3% increases have been granted every third year since 1992, with the latest 3% increase established on April 24, 2007 and effective July 1, 2007 (retroactive to January 1, 2007) for retired and disabled members that were receiving a monthly benefit on or before January 1, 2004 (Act 38-2007). In addition,

effective July 1, 2008, any retired or disabled member that was receiving a monthly annuity on or before January 1, 2004 less than $1,250 per month received an increase of up to 3% without exceeding the limit of $1,250 per month (Act 38-2007). All COLAs are paid by the General Fund, with the exception of Act 226-1998 (various Acts).

10. Medical Insurance Plan Contribution: A payment of up to $100 per month to the eligible medical insurance plan selected by the retiree or disabled member provided the member retired prior to August 1, 2014. This benefit is paid from the Supplemental Contributions (see Employer Contribution section). (Act 160-2013, Article 4.9).

11. Special "Bonus" Benefits:

    a. Christmas Bonus: An annual bonus of $200 for each retiree and disabled member paid in December provided the member retired prior to August 1, 2014. This benefit is paid from the Supplemental Contributions (see Employer Contribution section). (Act 160-2013, Article 4.9).

    b. Medication Bonus: An annual bonus of $100 to cover health costs paid in July for each retiree and disabled member provided the member retired prior to August 1, 2014 and for each beneficiary provided the associated member had died prior to August 1, 2014. Evidence of coverage is not required. The amount is prorated if there are multiple beneficiaries. This benefit is paid from the Supplemental Contributions (see Employer Contribution section). (Act 160-2013, Article 4.9).

12. Member Contributions: Contributions by Members are 9% of Compensation (Act 160-2013, Article 4.3). Before January 27, 2000, member contributions were 7% of Compensation. In addition, members who retired due to age and service who are not age 55 and 30 years of Creditable Service at the time of retirement are required to continue to pay the member contributions as described in Item 4b.

13. Service Purchase: Active members with eligible service from prior employment may elect to purchase service in PRTRS. The cost of the purchase is calculated by applying the PRTRS statutory member and employer contribution rates to the member's salary during the years of service at the former employer. The amount due to member contributions is accumulated at 9.5% compound per year until the time of service purchase. If the service purchase is a time purchase and not an intergovernmental service transfer, the amount due to employer contributions is accumulated at 9.5% compound per year until the time of service purchase. The

accumulation rate was 2% compound per year for purchases prior to September 15, 2015. Any amount not covered by asset transfers from the member's prior pension fund is payable by the member. (Act 160-2013, Article 3.6)

14. Act 70-2010 Retirement Incentive: During the 2010-2011 fiscal year, Act 70-2010 provided for an early retirement incentive. Additional window periods occurred through December 31, 2012. Active members who had at least 15 years of service, but less than 30 years of service, were able to retire immediately with an enhanced benefit ranging from 37.5% to 50% of salary. This enhanced benefit is paid by the General Fund until the member reaches the later of age 55 or the date the member would have completed 30 years of service had the member continued working. The System will have the liability to pay the benefit after this time period. While the General Fund is paying the pension benefit to the member or any surviving beneficiary, the General Fund will also pay a contribution to the System equal to the employer contribution rate (11.50% for the 2013-2014 fiscal year) applied to final salary. The employer contribution rate applied to final salary increases as under Act 160-2013 to an ultimate rate of 20.525% of payroll in 2021-2022 and thereafter. Members who retired under this incentive are not eligible to receive the Medical Insurance Plan Contribution.

Provisions applicable to members hired August 1, 2014 and later

Under Act 106-2017 and effective July 1, 2017, members hired August 1, 2014 and later had their Defined Contribution Account assets moved to a separate defined contribution plan outside of PRTRS and are no longer members of PRTRS.

Prior to July 1, 2017, the provisions were as follows:

1. Type of Plan

   A contributory, hybrid plan. A hybrid plan, such as a cash balance plan, determines the benefit amount based on a formula using contributions and earning credits, has notional individual accounts for members, and provides lifetime annuity benefits.

2. Eligibility for Membership

   Members of the Teacher's Retirement System of Puerto Rico include teachers hired by the Department of Education August 1, 2014 and later, licensed teachers working

in private schools or other educational organizations who elect to become members August 1, 2014 and later, and employees of the System hired August 1, 2014 or later. (Act 160-2013, Article 3.1)

3. Definitions

a. Fiscal Year: A Fiscal Year is a 12-month period beginning on July 1 and ending on June 30.

b. Fund: System Contribution Fund (Act 160-2013, Article 4.1).

c. General Fund: The General Expenses Budget of the Government of the Commonwealth of Puerto Rico.

d. Creditable Service: The years and months of plan participation, during which contributions have been made, beginning on the date of the first original appointment for rendering services. For purposes of calculating Creditable Service, 15 calendar days of a school year month shall be equal to 1 calendar month worked during the school year for teachers; and 21 calendar days of a month shall be equal to 1 calendar month worked for other participants. (Act 160-2013, Article 3.8)

e. Compensation: The gross cash compensation, excluding bonuses and overtime, upon which contributions by a Member to the Fund are based (Act 160-2013, Article 1.1).

f. Actuarial Equivalent: Equality in value such that the present value of the amount under any form of payment is essentially the same as the present value of the amount under the normal form of annuity payment for single participants. Actuarially Equivalent factors are determined based on annuity and mortality tables adopted by the Board of Trustees based on the system's experience and in accordance with the recommendations of the actuary.

g. Defined Contribution Account: The notional individual account established for each new member as of August 1, 2014 and later. Each member has a non-forfeitable right to their contributions to the Defined Contribution Account. (Act 160-2013, Article 1.1)

SECTION VI – SUMMARY OF PRINCIPAL PLAN PROVISIONS AS OF JUNE 30, 2017

h. Credits to Defined Contribution Account: The credits to the Defined Contribution Account include (1) contributions by the member and (2) for vested members, at the end of each semester, the investment yield for each semester of the fiscal year as determined by the Board. The investment yield determined by the Board shall never be less than 80% of the investment portfolio yield of the System during each semester of each fiscal year minus management fees such as, but not limited to, fees payable to portfolio managers, custody, and investment advice. (Act 160-2013, Article 5.8)

4. Retirement Benefits

   a. Eligibility: Age 62 with 5 or more years of Creditable Service and a balance in the Defined Contribution Account balance of $10,000 or more (Act 160-2013, Article 3.9).

   b. Benefit: An annuity payable for the lifetime of the member equal to the annuitized value of the balance in the Defined Contribution Account at the time of retirement (Act 160-2013, Article 5.10).

5. Termination Benefits

   a. Lump Sum Withdrawal

      Eligibility: A Member is eligible upon termination of service prior to 5 years of service or if the balance in the Defined Contribution Account is less than $10,000. (Act 160-2013, Article 3.4)

      Benefit: The benefit equals a lump sum payment of the balance in the Defined Contribution Account as of the date of the permanent separation from service. Such lump sum would reflect 2% compound interest, rather than the investment yield determined by the Board, for up to 6 months after separation from service. (Act 160-2013, Article 3.4)

   b. Deferred Retirement

      Eligibility: A Member is eligible upon termination of service prior to age 62, completion of 5 or more years of Creditable Service, and a balance in the Defined Contribution Account of $10,000 or more (Act 160-2013, Article 3.9).

Benefit: An annuity payable for the lifetime of the member commencing at age 62 equal to the annuitized value of the balance in the Defined Contribution Account at the time of retirement (Act 160-2013, Article 5.10).

6. Death Benefits

   a. Pre-retirement Death Benefit

      Eligibility: Any current non-retired member is eligible (Act 160-2013, Article 5.11).

      Benefit: A refund of the Defined Contribution Account (Act 160-2013, Article 5.11).

   b. Post-retirement Death Benefit

      Eligibility: Any retiree or disabled member (Act 160-2013, Article 5.11).

      Benefit: If the member elected at the time of retirement to transfer a portion of the annuity to a beneficiary by selecting an actuarially equivalent optional form of payment, the applicable survivor benefit (Act 160-2013, Article 5.11).

      For all members, the excess, if any, of the Defined Contribution Account at the time of retirement over the total monthly pension payments paid to the member and any beneficiary per the terms of the optional form of payment shall be payable to a beneficiary or to the member's estate (Act 160-2013, Article 5.11).

7. Disability Benefits

   a. Eligibility: All members are eligible upon 5 years of Creditable Service and the occurrence of disability (Act 160-2013, Article 5.11).

   b. Benefit: An annuity payable for the lifetime of the member equal to the annuitized value of the balance in the Defined Contribution Account at the time of disability (Act 160-2013, Article 5.11).

8. Member Contributions: Contributions by Members are 10.00% of Compensation from August 1, 2014 to June 30, 2017, 13.12% of Compensation from July 1, 2017

SECTION VI – SUMMARY OF PRINCIPAL PLAN PROVISIONS AS OF JUNE 30, 2017

to June 30, 2020, and 14.02% of Compensation effective July 1, 2020 (Act 160-2013, Article 5.5).

Employer Contributions

1. Payroll-based Employer Contributions: Not applicable. Eliminated July 1, 2017 by Act 160-2017.

   Formerly - Contributions by the Commonwealth of Puerto Rico and private school employers, as applicable, are 9.5% of Compensation for the fiscal year beginning July 1, 2011. For the next four fiscal years effective July 1, employer contributions will increase annually by 1%. For the next five fiscal years, employer contributions will increase annually by 1.25%, reaching an employer contribution rate of 19.75% effective July 1, 2020. Effective July 1, 2021 and later fiscal years, the employer contribution rate will be 20.525%. (Act 160-2013, Article 4.3) Prior to July 1, 2011, employer contributions were 8.5% of Compensation. The following table shows the employer contribution rate beginning with the 2011-2012 fiscal year.

Fiscal Year	Employer Contribution Rate
2011-2012	9.500%
2012-2013	10.500
2013-2014	11.500
2014-2015	12.500
2015-2016	13.500
2016-2017	14.750
2017-2018	16.000
2018-2019	17.250
2019-2020	18.500
2020-2021	19.750
2021-2022 & later	20.525

   For members who retire due to age and service prior to attaining age 55 and 30 years of Creditable Service, continued member contributions are required for the time period described in Item 4b (if the member is hired on or before July 31, 2014). During this time period, the employer also makes contributions based on the rates described in the paragraph above as applied to the member's final salary. (Act 160-2013, Article 4.4)

2. Supplemental Contributions: Not applicable. Eliminated July 1, 2017 by Act 160-2017.

   Formerly - Effective July 1, 2014, the System will receive a supplemental contribution of $1,675 each fiscal year for each pensioner (including beneficiaries receiving survivor benefits). This supplemental contribution will be paid by the General Fund. (Act 160-2013, Article 4.9)

3. Teacher's Justice Uniform Contribution: Not applicable. Eliminated July 1, 2017 by Act 160-2017.

   Formerly - The System will receive the Teachers Justice Uniform Contribution of $30 million for the 2016-2017 and 2017-2018 fiscal years and $60 million for each fiscal year from 2018-2019 to 2041-2042. The Teacher's Justice Uniform Contribution will be paid by the General Fund. (Act 160-2013, Articles 1.1 and 7.1)

4. Annual Additional Contribution: Not applicable. Eliminated July 1, 2017 by Act 160-2017.

   Formerly - During each fiscal year from 2018-2019 through 2041-2042, the System will receive an Annual Additional Contribution certified by the external actuary of the System as necessary to avoid having the projected gross assets of the System, during any subsequent fiscal year, fall below $300 million. The Annual Additional Contribution will be paid by the General Fund. (Act 160-2013, Articles 1.1 and 7.1)

Changes in Plan Provisions since Prior Valuation

As directed by PRTRS based on conversations with GASB, Act 106-2017 (enacted on August 23, 2017) is to be reflected as of June 30, 2017 as a non-recognized subsequent event that requires disclosure (Type II – Subsequent Event). As a result, this valuation does not reflect any changes in plan provisions since the prior valuation.

Act 106-2017 closed participation in PRTRS to members hired July 1, 2017 and later. Members hired August 1, 2014 through June 30, 2017 had their Defined Contribution Account assets moved to a separate defined contribution plan outside of PRTRS and are no longer members of PRTRS.

The following contributions were eliminated July 1, 2017 by Act 106-2017:
- Act 104-2011/Act 160-2013 payroll-based Employer Contributions

SECTION VI – SUMMARY OF PRINCIPAL PLAN PROVISIONS AS OF JUNE 30, 2017

- Act 160-2013 Teacher's Justice Uniform Contribution
- Act 160-2013 Annual Additional Contribution
- Act 160-2013 Supplemental Contributions

PUERTO RICO TEACHERS RETIREMENT SYSTEM

SECTION VII – SUMMARY OF ACTUARIAL ASSUMPTIONS AS OF JUNE 30, 2017

Investment Return: Not applicable due to pay-as-you-go funding. As of June 30, 2016 was 5.85% per annum, net of investment expenses (based on the System's investment policy, including target asset allocation and expectations regarding the loan portfolio, and Milliman's capital market assumptions as of June 30, 2016).

Municipal Bond Rate: 3.58% per annum (Bond Buyer General Obligation 20-Bond Municipal Bond Index)

GASB 67 discount rate: 3.58% per annum

GASB 45 discount rate: 2.90% per annum. Based on the Commonwealth's asset allocation for the general assets that are used to pay this benefit and Milliman's capital market assumptions as of June 30, 2017.

Compensation Increases: Compensation increases vary by years of creditable service as shown below. The rates below include the assumption for general wage inflation of 2.5%. However, no compensation increases are assumed from July 1, 2013 until July 1, 2021 as a result of the Act 3-2017 four year extension of the Act 66-2014 salary freeze. Based on a 2004-2007 experience study, with updated expectations regarding general wage inflation and modified for the impact of Act 66-2014 as extended by Act 3-2017.

Years of Creditable Service	Increase in Annual Rate over Prior Year	Years of Creditable Service	Increase in Annual Rate over Prior Year
1-5	4.70%	15	3.20%
6	4.50	16	3.10
7	4.30	17-19	3.00
8	4.10	20	2.90
9	3.90	21	2.80
10	3.80	22	2.75
11	3.70	23	2.70
12	3.60	24-27	2.65
13	3.50	28	2.60
14	3.30	29 & Over	2.50

SECTION VII – SUMMARY OF ACTUARIAL ASSUMPTIONS AS OF JUNE 30, 2017

Defined Contribution Account: Not applicable due to the transfer of Defined Contribution Account assets to a defined contribution plan outside of the System under Act 106-2017. Prior to July 1, 2017, Defined Contribution Accounts are assumed to grow using 4.32% annual investment return (based based on Milliman's capital market assumptions as of June 30, 2017 and the hybrid plan asset allocation adopted by the Board in June 2017).

Annuitization of Defined Contribution Account: Prior to July 1, 2017, single life annuity factors using an interest rate of 4% and the RP-2000 Healthy Annuitant Mortality Table for ages 50 and over and the RP-2000 Employee Mortality Table for ages under 50, projected to 2025 using Scale AA and blended 50% male / 50% female, were used to convert the Defined Contribution Account to a lifetime annuity. Based on the current factors adopted by the System's Board.

Termination: Withdrawal rates vary by gender and years of creditable service. The withdrawal rates are shown below. Based on a 2004-2007 experience study as well as the actuary's judgment and continual review of experience.

Years of Creditable Service	Male	Female
0	12.00%	15.00%
1	9.00	8.00
2	6.00	5.00
3	3.00	3.00
4	3.00	2.75
5	2.50	2.50
6	2.50	2.25
7	2.00	2.00
8	1.50	1.50
9	1.00	0.50
10+	0.10	0.05

PUERTO RICO TEACHERS RETIREMENT SYSTEM

SECTION VII – SUMMARY OF ACTUARIAL ASSUMPTIONS AS OF JUNE 30, 2017

Retirement for members hired on or before July 31, 2014: Rates of retirement vary by age and years of creditable service. The rates shown below apply when an active member is eligible for retirement (e.g. age 47 with at least 25 years of creditable service or age 60 with at least 10 years of creditable service). Based on a 2004-2007 experience study as well as the actuary's judgment and continual review of experience.

Age	Less than 30 years of Creditable Service	30 or more years of Creditable Service
47-49	0.5%	20.0%
50-54	2.0	25.0
55-59	5.0	30.0
60-61	10.0	25.0
62-64	12.0	25.0
65-79	15.0	25.0
80	100.0	100.0

To reflect actual retirement activity among active members that is higher than anticipated during 2017-2018, the retirement rates prior to age 80 shown above were increased by 85% for 2017-2018.

Current terminated vested members as of the census data collection date were assumed to retire (i) at age 55, or attained age if later, if the member had at least 30 years of service or (ii) at age 60, or attained age if later, otherwise. Future terminated vested participants are assumed to retire at age 60.

Retirement for members hired August 1, 2014 or later: Not applicable due to the transfer of Defined Contribution Account assets to a defined contribution plan outside of the System under Act 106-2017. Prior to July 1, 2017 rates of retirement varied by age as shown below. Based on actuary's judgment.

Age	Annual Rate
62	25%
63-64	10
65-66	15
67	20
68-69	25
70-79	30
80	100

SECTION VII – SUMMARY OF ACTUARIAL ASSUMPTIONS AS OF JUNE 30, 2017

Future terminated vested participants were assumed to retire at age 62.

Service Purchases for members hired on or before July 31, 2014: Members over age 50 who are not eligible for retirement are assumed to elect to purchase enough service to retire immediately at the rates shown in the table below. Based on a 2004-2007 experience study as well as the actuary's judgment and continual review of experience, including the impact of Act 160-2013.

Age	Annual Rate
50-54	0.05%
55-59	0.10
60-64	0.20
65-79	0.80

In addition, 5% of active members retiring prior to attaining 30 years of creditable service are assumed to purchase enough years of service upon retirement to attain 30 years of creditable service. Based on actuary's judgment and continual review of experience, including the impact of Act 160-2013.

Disability: Unisex rates which vary by age and years of creditable service are assumed. Illustrative rates are shown below. Rates of disability cease to apply upon attainment of retirement eligibility. Based on a 2004-2007 experience study as well as the actuary's judgment and continual review of experience.

Age	Less than 5 years of Creditable Service	5 or more years of Creditable Service
25	0.008%	0.013%
30	0.008	0.013
35	0.008	0.013
40	0.009	0.014
45	0.020	0.031
50	0.068	0.105
55	0.133	0.204
60	0.163	0.251
65	0.157	0.242
70	0.144	0.222

PUERTO RICO TEACHERS RETIREMENT SYSTEM

SECTION VII – SUMMARY OF ACTUARIAL ASSUMPTIONS AS OF JUNE 30, 2017

Pre-retirement Mortality: RP-2014 Employee Mortality Rates for males and females adjusted to reflect Mortality Improvement Scale MP-2017 from the 2006 base year, and projected forward using MP-2017 on a generational basis. As a generational table, it reflects mortality improvements both before and after the measurement date. Based on actuary's judgment.

Post-retirement Healthy Mortality: Rates which vary by gender are assumed for healthy retirees and beneficiaries based on a study of plan's experience from 2007 to 2012 and updated expectations regarding future mortality improvements. The 2010 base rates are equal to 92% of the rates from the UP-1994 Mortality Table for Males and 87% of the rates from the UP-1994 Mortality Table for Females. These base rates are projected using Mortality Improvement Scale MP-2017 on a generational basis from the 2010 base year. As a generational table, it reflects mortality improvements both before and after the measurement date.

Post-retirement Disabled Mortality: Rates which vary by gender are assumed for disabled retirees based on a study of plan's experience from 2007 to 2012 and updated expectations regarding future mortality improvements. The 2010 base rates are equal to the rates in the UP-1994 Mortality Table for males and females. These base rates are projected using Mortality Improvement Scale MP-2017 on a generational basis from the 2010 base year. As a generational table, it reflects mortality improvements both before and after the measurement date.

Marriage: 65% of current active and terminated members are assumed to be married at retirement with males 3 years older than females.

Form of Payment: For members retiring after July 31, 2014, a modified cash refund (approximated by a single life annuity with 3 years certain for members hired on or before July 31, 2014).

Spousal information was not provided for current retired and disabled members who retired prior to August 1, 2014. A 65% marriage assumption was applied to all current retirees and disabled members who retired prior to August 1, 2014 retroactively to the date of retirement or disability. The spouse's date of birth was imputed based on an assumed age difference of 3 years with males older than females. A 3-year certain period, retroactive to date of retirement or disability, is applied to approximate the cost of a modified cash refund for retirees without a surviving spouse.

SECTION VII – SUMMARY OF ACTUARIAL ASSUMPTIONS AS OF JUNE 30, 2017

No future dependent children were assumed to become beneficiaries.

Members who terminate employment with at least 5 years of service (10 years of service if hired on or before July 31, 2014) are assumed to elect to receive a deferred pension benefit in lieu of a refund of contributions.

Medical Insurance Plan Contribution: 85% of eligible retired and disabled members were assumed to receive a monthly medical insurance continuation benefit of $100 per month.

Census Data Collection Date: July 1, 2016. When information is provided by participant category in this report, the category is determined as of the census data collection date.

Special Data Adjustments: The following adjustments were made to the census data received from the System.

The entry age for active members was assumed to be the age as of June 30, 2016 less the provided years of creditable service.

If not provided by the System, benefits for new and continuing terminated vested participants were estimated based on the years of credited service and earnings history available from prior valuations.

Refer to the Form of Payment assumption above for a description of spousal data imputation for current retired and disabled members who retired before August 1, 2014.

For current retired and disabled members who retired on or after August 1, 2014 who did not elect an optional form of payment, the modified cash refund form of payment was approximated by a single life annuity with 3 years certain. According to PRTRS, no such retiree had elected an optional form of payment as of July 1, 2016.

If not provided by the System, the portion of the annual benefit payable to current beneficiaries attributable to past COLA adjustments was assumed to be 5%.

Benefits for current beneficiaries who are under age 22 as of the valuation date were assumed to cease at age 22. Benefits for current beneficiaries who are age 22 or older as of the valuation data were assumed to be payable for life. In addition, the current level of benefit was assumed to remain constant.

PUERTO RICO TEACHERS RETIREMENT SYSTEM

SECTION VII – SUMMARY OF ACTUARIAL ASSUMPTIONS AS OF JUNE 30, 2017

Benefits not valued: The minimum post-retirement death benefit of $1,000 for retirees without surviving beneficiaries is not explicitly valued. The additional liability associated with this benefit is expected to be de minimis.

Changes in actuarial assumptions since the prior valuation:

The investment return assumption is no longer applicable due to pay-as-you-go funding. As of June 30, 2016 it was 5.85% per annum, net of investment expenses.

The GASB 67 discount rate has increased from 2.86% as of June 30, 2016 to 3.58% as of June 30, 2017.

The investment return assumption for GASB 45 purposes was decreased from 3.00% to 2.90%.

The projected mortality improvement scale was updated from Scale MP-2016 to Scale MP-2017 to reflect the projected mortality improvement scale issued in the valuation year.

To reflect actual retirement activity among active members that is higher than anticipated during 2017-2018, the retirement rates for active members were increased by 85% for 2017-2018.

The assumed investment return on the Defined Contribution Account was decreased from 4.68% to 4.32% based on Milliman's capital market assumptions as of June 30, 2017 and the hybrid plan asset allocation adopted by the Board in June 2017.

PUERTO RICO TEACHERS RETIREMENT SYSTEM

SECTION VII – SUMMARY OF ACTUARIAL METHODS AS OF JUNE 30, 2017

The ultimate cost of a pension plan is the excess of actual benefits and administrative expenses paid over actual net investment return on plan assets during the plan's existence until the last payment has been made to the last participant. The plan's "actuarial cost method" determines the expected incidence of actuarial costs by allocating portions of the ultimate cost to each plan year. The cost method is thus a budgeting tool to help to ensure that the plan will be adequately and systematically funded and accounted for. There are several commonly-used cost methods which differ in how much of the ultimate cost is assigned to each prior and future year. Therefore, the pattern of annual contributions and accounting expense varies with the choice of cost method. Annual contributions and accounting expense are also affected by the "asset valuation method" (as well as the plan provisions, actuarial assumptions, and actual plan demographic and investment experience each year).

Actuarial Cost Method

The plan's actuarial cost method is the entry age normal method (level percentage of payroll). Under this method, a projected benefit is determined at each active participant's assumed retirement age assuming future compensation increases. The plan's normal cost is the sum of each active participant's annual cost for the current year of service determined such that, if it were calculated as a level percentage of his compensation each year, it would accumulate at the valuation interest rate over his total prior and future years of service to his assumed retirement date into an amount sufficient to fund his projected benefit. The plan's accrued liability is the sum of (a) the accumulation of each active participant's normal costs attributable to all prior years of service plus (b) the present value of each inactive participant's future benefits.

Asset Valuation Method

The Market Value of Assets.

Liability Determination

The results as of June 30, 2017 are based on projecting the System obligations determined as of the census data collection date of July 1, 2016 for one year using roll-forward methods, assuming no liability gains or losses.

PUERTO RICO TEACHERS RETIREMENT SYSTEM

SECTION VII – SUMMARY OF ACTUARIAL METHODS AS OF JUNE 30, 2017

Changes in actuarial methods since the prior valuation

None.